Message

**From**: Muehling, Brian [Muehling.Brian@epa.gov]
**Sent**: 3/8/2018 10:31:36 PM
**To**: Troche, Luis [Troche.Luis@epa.gov]
**Subject**: RE: National Weather Center at Council Session

I'm on it, Luis. Thanks for this!

**From:** Troche, Luis
**Sent:** Thursday, March 08, 2018 5:31 PM
**To:** Muehling, Brian <Muehling.Brian@epa.gov>
**Subject:** National Weather Center at Council Session

Brian -

## Wednesday 27 June 2018

**8:00 - 8:30 am** Transportation of Ministers and delegations (only) to University of Oklahoma, Norman
**8:30 - 9:45 am** U.S. National Weather Center at University of Oklahoma
Participants: Ministers, Delegations, Secretariat
Press: TBD
**National Weather Center Tour and Briefings:**
The objective of this visit is to showcase federal, state and academic partnerships and innovation, and:

- Explore technology and science on weather
- How weather impacts sustainability, resilience, growth
- How the weather centers' technology and science is relevant to the CEC projects
- Opportunities for US-Canada-Mexico collaboration

The National Weather Center (http://www.ou.edu/nwc/) is a one-of-a-kind facility that houses a unique confederation of The University of Oklahoma, National Oceanic and Atmospheric Administration (NOAA), and state organizations that work together in partnership to improve understanding of events occurring in Earth's atmosphere over a wide range of time and space scales. Please see attachment 1 for list of organizations that may participate in this event.
Program:

- 8:30 – 8:50 am Welcome and Introduction to the NWC and University Research Campus and CEC
- 8:50 – 9:30 am Ministers' VIP tour or private meeting with NWC Leadership (Ministers + 3, format TBC)
- 8:50 – 9:30 am Delegation split in two groups for tour/browse NWC and visit tenant booths
- 9:30 – 9:45 am Closing remarks, Administrator Pruitt, Ministers McKenna & Pacchiano
- 9:45 am - Depart for OU Innovation Hub-Fabrication Lab

Tours will visit the Observation Deck to discuss the history of the National Weather Center and the development and growth of University Research Campus, as well as the forecast operations areas for the NOAA National Weather Service Oklahoma City/Norman Weather Forecast Office and the NOAA NWS Storm Prediction Center to discuss operational meteorology. Through the NWC tours and the opportunity to showcase the various tenants of the National Weather Center, the objective is to address the following topics of interest to CEC:

- Weather impacts to crops, pollinators, agriculture, aquaculture/fisheries and economy
  - Habitats and Migration
  - Monarch butterflies and pollinators
- Weather impacts to transport of trade or stocking of supply chains
  - Reducing emissions with ocean vessels (geo carb mission, North America and Amazon)
  - Air quality impacts
  - Food loss and waste on entire chain (production and consumption)

- Weather prediction and tracking capabilities and the ability to protect or harden infrastructure to maintain environmental protection, productivity, outputs or sustainability of coastal cities
    - Extreme heat impacts on health (working with National Institute of Health) and urban heat island and canyons research

Attachment 1 – Organizations Potentially Participating in National Weather Center Event

**National Weather Center Organizations:**

**Federal**:

NOAA National Severe Storms Laboratory (NSSL), NOAA National Weather Service Oklahoma City/Norman Weather Forecast Office (NWS Norman), NOAA Radar Operations Center (ROC), NOAA NWS Storm Prediction Center (SPC), NOAA Warning Decision Training Division (WDTD)

**Academic**:

OU College of Atmospheric & Geographic Sciences (A&GS) (OU School of Meteorology (SoM) and Department of Geography and Environmental Sustainability (DGES))

**R&D Partners:**

Advanced Radar Research Center (ARRC), Center for Analysis & Prediction of Storms (CAPS), Center for Spatial Analysis (CSA), Cooperative Institute for Mesoscale Meteorological Studies (CIMMS), Oklahoma Climatological Survey (OCS)/Oklahoma Mesonet, South Central Climate Science Center

**Potential Booths/Organizations:**

**Oklahoma Mesonet** (http://mesonet.org/): Most sophisticated surface observation network (120 stations) in the United States, covering all 77 Oklahoma counties. The Oklahoma Mesonet has profound impacts for forecasting as well as for agriculture.

**ARRC** (https://arrc.ou.edu/) **and NSSL** (https://www.nssl.noaa.gov/): A national leader in radar research and severe storm research. Experts on radar meteorology can discuss the latest advancements in weather-radar technology, collaboration with the US, Mexico, and Canada, and the use of weather radar not only to look at weather, but to monitor birds, bats, insects, and migration patterns (aeroecology).

**CIMMS** (http://cimms.ou.edu/) **and NSSL**: Researchers at the National Weather Center are working on developing new advances in forecasting and warning processes. FACETs (Forecasting a Continuum of Environmental Threats) is a new program that is utilizing Probabilistic Hazard Information (PHI) to disseminate warnings in an entirely new fashion. NSSL HyDROS is a hydrometeorology group working on developing a new flash-flood model for better prediction of dangerous floors (FLASH model). Researchers from these groups can discuss their work in the NOAA Hazardous Weather Testbed (HWT).

**WDTD** (http://training.weather.gov/wdtd/): This group trains all the National Weather Service forecasters in the United States, but has also provided training simulations for forecasters in Canada and Mexico

**South Central Climate Science Center** (http://southcentralclimate.org/): Established in 2012, the South Central Climate Science Center provides decision makers with the science, tools, and information they need to address the impacts of climate variability and change on their areas of responsibility. They promote multi-institutional and stakeholder-driven approaches to assessing the impact of climate extremes on natural and cultural resources.

**Center for Autonomous Sensing and Sampling** (https://cass.ou.edu/): CASS's mission is to explore, advance, and develop complete adaptive and autonomous sensing and sampling systems for use in the atmosphere, on the ground, and in the water, and to help facilitate the integration of this technology across various disciplines and institutions. The goal of CASS is to establish itself as a recognized global leader in research, education, and development involving autonomous sensing and sampling solutions to address science and technology driven needs, fostering an environment for trans-disciplinary applications of this technology, and helping to promote the effective transfer of knowledge and technology to academia, government, and industry.

**The University of Oklahoma Office of the Vice President for Research** (https://vpr-norman.ou.edu/): The University of Oklahoma's Research Campus is a collaborative environment where academia, industry, and government build on the university's intellectual vitality. Collectively, the federal and private entities housed on the Research Campus represent more than 750 technology and knowledge-based jobs for the Norman community and the state of Oklahoma. Exciting new developments are in place, led by the OU VPR office, to grow the Norman Weather Enterprise with dramatic impacts on the Oklahoma economy. UAV/UAS research via CASS and the initiative to create the National Environmental Simulation and Testing Facility (http://nest.ou.edu/) are at the top of the list growing the Norman Weather Enterprise.

**GeoCARB**: The largest grant ever awarded to the University of Oklahoma. The primary goals of the Geostationary Carbon Cycle Observatory (GeoCARB), led by Dr. Berrien Moore (Director of the National Weather Center and Dean of the College of Atmospheric & Geographic Sciences) of the University of Oklahoma in Norman, are to monitor plant health and vegetation stress throughout the Americas, and to probe, in unprecedented detail, the natural sources, sinks and exchange processes that control carbon dioxide, carbon monoxide and methane in the atmosphere. The press release from NASA (https://www.nasa.gov/press-release/nasa-announces-first-geostationary-vegetation-atmospheric-carbon-mission) and presentation (https://www.nacarbon.org/meeting_ab_presentations/2017/2017_Mar28_AM_Moore_III_217.pdf) showing program details and international partners (including groups in Mexico) are presented here.

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